UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,069	04/26/2001	Rodney Carlton Burnett	AUS920010161	8483

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EXAMINER
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ART UNIT	PAPER NUMBER
2132	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Offic Acti n Summary	09/843,069	BURNETT ET AL.
	Examiner	Art Unit	
	Kristin Derwich	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _4/26/01_.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-21_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-21_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _4/26/2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

    I.   Claims 1-21, drawn to controlling access to computer system devices,

    classified in class 713, subclass 167.

    II.   Claims 22-28, drawn to restricting the creation of special device files,

    classified in class 713, subclass 201.

2.   The inventions are distinct, each from the other because:

Inventions group 1 and group 2 are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as

claimed does not require the particulars of the subcombination as claimed for

patentability, and (2) that the subcombination has utility by itself or in other

combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed

does not require the particulars of the subcombination as claimed because the

particulars of how the special device files are created are not recited in the combination.

The subcombination has separate utility such as restricting the creation of a special

device file regardless of whether an access request is attempted.

3.   Because these inventions are distinct for the reasons given above and have

acquired a separate status in the art as shown by their different classification, restriction

for examination purposes as indicated is proper.

4.   Because these inventions are distinct for the reasons given above and have

acquired a separate status in the art because of their recognized divergent subject

matter, restriction for examination purposes as indicated is proper.

5.   Because these inventions are distinct for the reasons given above and the

search required for Group 1 is not required for Group 2, restriction for examination

purposes as indicated is proper.

6.   During a telephone conversation with WALKER, DARCELL on December 8,

2004, a provisional election was made with traverse to prosecute the invention of group

1, claims 1-21. Affirmation of this election must be made by applicant in replying to this

Office action. Claims 22-28 withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

7.   Claims 1-21 pending.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

9.   Claim 1 recites the limitations "the file attributes", "the device file" and "the

system device access attempt" in lines 3-4. There is insufficient antecedent basis for

these limitations in the claim.

        Claim 4 recites the limitation "the protected object name of the database entry" in

line 7. There is insufficient antecedent basis for this limitation in the claim. It is not

clear what the protected object name is referring to since a protected object name was

not introduced previously.

10.   Claims 1-10 and 12-19 rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. Applicant uses the terms "device file" and

"special device file" interchangeably without making a distinction between the two

throughout the claims. For example, claim 1, lines 3-4 state, "retrieving the file

attributes for the device file used in the system device access attempt;" then claim 1,

lines 5-6 go on to state, "determining whether the resource that is making the access

attempt is a special device file". It is not clear whether the "device file" of line 3 is the

same as the "special device file" of lines 5 and 6. If it is assumed they are the same

thing then the two elements of the claim are circular in nature. The first step retrieves

the file attributes for the device file used in the system device access attempt, the next

step determines whether the resource making the access attempt is a device file, but

the first step already establishes the resource making the access attempt as a device

file since its attributes are being retrieved.

    If the "device file" and "special device file" are not the same then applicant needs

to clarify the distinction between the two.

Claim R j ctions - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11-1.   Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Kenton et al.

(Kenton), U.S Patent No. 5,479,612.

As per claim 1, Kenton discloses a method for controlling access to a computer

system device comprising steps of:

retrieving the file attributes for the device file used in the system device access

attempt (column 3, lines 63-65; column 4, lines 16-24, column 4, lines 41-44);

Kenton demonstrates retrieving file attributes for the device files by obtaining

identification information about the device file. In addition, because it has been

established that the identification information is being obtained from the device file being

used in the system device access attempt, it has also been established that the

resource making the access attempt is a device file thus encompassing the second

element of this claim.

determining whether the resource that is making the access attempt is a special

device file (column 3, lines 63-65; column 4, lines 16-24, column 4, lines 41-44);

As established above, the resource making the access attempt must be a special

device file since the claim states that the file attributes will only be retrieved for a device

file used on the system device access attempt.

Kenton demonstrates the functionality of a special device file, through a device driver. Device drivers, "act as the portal to the device and its underlying functionality (Background of Invention, paragraph 1, lines 17-18)." Thus, a device driver is a special device file and will be referred to as such for the remainder of this office action.

searching a mapping database for device files that represent the system device that is the object of the access attempt and generating a device file entry list of all protected device files that represent said system device (column 4, lines 29-33; column 5, 18-22);

Kenton exhibits the functionality of a "mapping database" through the use of device identification information as the look up data to be compared to a list of devices supported by the operating system. The identification information is mapped to the device it represents.

Kenton demonstrates the functionality of "protected device files" through the use of device files needing license keys in order to be accessed. Since access is denied if these licenses are not present, this protects the devices from being accessed by the user and are considered protected device files.

generating an authorization decision for the access attempt to the system device based on the security policy that governs each device file in the device file entry list (column 5, lines 36-47).

Unless applicant defines a more specific security policy, the one demonstrated by Kenton, based on the presence of driver licenses, qualifies as a security policy that generates an authorization decision for an access attempt.

As per claim 2, the rejection of claim 1 is incorporated, and further Kenton discloses before said searching step the step of terminating said access control method when the accessing resource is not a special device file (column 4, lines 34-40).

As previously stated in claim 1, the resource must be a device file making the access attempt to have the file attributes retrieved from it, thus, if it were not a device file the file attributes would not have been retrieved and the identification information needed in order to proceed to the next step of the access control method would not have been obtained. As a result the method would be terminated.

As per claim 3, the rejection of claim 1 is incorporated, and further Kenton discloses after said searching step the step of terminating said access control method when said searching step did not find any database entries that had device specifications that match the device specifications of the device file making the access attempt (column 4, lines 30-40).

Kenton's identification information embodies the functionality of applicant's device specification.

As per claim 4, the rejection of claim 1 is incorporated, and further Kenton disclose said searching step comprising the steps of:

retrieving an entry from the mapping database (column 4, lines 29-34);

comparing the device specification of the device file making the access attempt to the device specification of the database entry (column 4, lines 29-34); and

comparing the file name of the device file making the access attempt to the protected object name of the database entry (column 4, lines 29-34).

Kenton demonstrates the functionality of retrieving an entry from the list, i.e. mapping database, by virtue of the comparison step. In order to find and compare the correct peripheral device in the list, an entry in the list has already been retrieved in order to make the comparison since the entire list cannot be compared at the same time. Kenton shows the comparison of the immediate entry against each entry in the list. Each entry contains the device identification information and the device the identification information represents, thereby showing how this step compares both the specification of the device file and the object name.

As per claim 5, the rejection of claim 4 is incorporated, and Kenton discloses a method further comprising after said file name comparison step the steps of:

generating a device file entry list containing the database entry with the same file specification and file name as the device file making the access attempt (column 5, lines 27-28);

Kenton demonstrates the functionality of generating a device file entry list by writing to a log file.

terminating said searching step (column 5, lines 46-47).

As per claim 6, the rejection of claim 4 is incorporated, and Kenton discloses a method further comprising after said file name comparison step the steps of placing in a file entry list, a mapping database entry having the same file specification as, but different file name from the device file making the access attempt (column 5, lines 36-40).

Kenton shows the functionality of the list the applicant mentions through a list of

devices which all share similar attributes and are grouped together but lack a driver

license which is another way in which the peripheral devices are identified and access is

controlled, i.e. the device file name.

As per claim 7, the rejection of claim 6 is incorporated, and further Kenton

discloses a method comprising the steps of:

determining whether there are more entries in the database (column 4, lines 33-

36);

retrieving the next mapping database entry for comparison with said device file

making the access attempt, when more entries are found in the mapping database

(column 4, lines 33-36); and

returning to said device file comparison step (column 4, lines 33-36).

In order to be assured that the a peripheral device is not included in the list, the

search must include looping through the entire list entry by entry until no more entries

remain.

As per claim 8, the rejection of claim 2 is incorporated, and further Kenton

discloses a method wherein said authorization decision step comprises the steps of:

retrieving the current entry in the device file entry list (column 5, lines 18-22);

In order to do the search, an fentry would have to be retrieved in order to

proceed to the access decision step.

calling the access decision component to obtain an access decision for the

access attempt to the system device based on the security policy that governs the

current entry in the device file entry list (figure 2, item 216);

determining whether decision component granted access (column 5, lines 46-

47);

The purpose of the access decision component is to decide whether or not to

grant the resource access to the device, therefore this step is redundant since it is

already incorporated into the access decision component.

determining whether more entries are in this file entry list, if decision component

granted access (column 5, lines 36-46); and

updating current entry in said device file entry list and returning to said current

entry retrieving step (column 5, lines 36-46).

Kenton exhibits the functionality of looping from the step of retrieving the next

entry in the file entry list and determining if there are more entries by having to add all of

the values in the quantity fields for every valid installed key. In order to exhaust every

valid installed key in the list, this step would have to loop through the entire list to add

up each value, therefore, it would have to determine whether there are more entries and

then return to the retrieval step if there were remaining items in the list.

As per claim 9, the rejection of claim 8 is incorporated, and further Kenton

discloses comprising after said decision determination step the step of denying the

access attempt to the system device if the decision component of a device file entry

denies access (item 216, figure 2, follow the "optional no" path).

As per claim 10, the rejection of claim 8 is incorporated, and further Kenton discloses a method comprising the step of allowing the access attempt to the system device if no more entries are in the file entry list (step 216, figure 2).

As previously stated, step 216 exhausts the entire list of valid installed keys in order to find the sum of all entries. Once the sum is computed, there are no more entries in the list and regardless of the decision, both paths lead to the use of the device.

As per claim 11, Kenton discloses a method for controlling access to a computing system device being accessed through a device file, said access control being through an externally stored resource and comprising the steps of:

monitoring the computing system for activities related to creating and accessing special device files that represent system devices (column 3, lines 25-30);

Since device drivers are the communication line between the peripheral devices themselves and the operating system, the device drivers themselves monitor when an access attempt is being made.

restricting the creation of special device files based on rules defined in the externally stored resource (column 4, lines 64-67); and

restricting special device file accesses based on rules defined in the externally stored resource (column 5, lines 5-8).

The special device file access is restricted based on the rules associated with the driver license.

As per claims 12-19, this is a product version of the claimed method discussed above in claims 1-11 wherein all claimed limitations have also been addressed and/or cited as set forth above.

As per claim 20, Kenton discloses a computer connectable to a distributed computing system, which includes special device files containing information, related to corresponding system devices comprising:

a processor (column 3, line 5; item 112, figure 1);

a native operating system (column 3, lines 21-22; item 106, figure 1);

application programs (column 3, lines 57-59);

an externally stored authorization program overlaying said native operating system and augmenting the standard security controls of said native operating system (column 4, lines 41-44);

a mapping database within said external authorization program containing a system device to a protected object name entries for each protected file system object (column 4, lines 29-33);

and

a decision component within said authorization program for controlling access to special device files representing system devices (column 5, lines 15-22; column 6, lines 52-53).

As per claim 21, the rejection of claim 20 is incorporated, and Kenton discloses a computer comprising an authorization program for restricting the creation of special device files representing protected system devices (column 4, lines 64-67).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S Patent 5,859,966 (Hayman et al.) utilizes security policies to control access to peripheral devices similar to the instant invention.

U.S. Patent 5,113,442 (Moir) contains an access decision component and mapping database similar to that in the instant invention.

U.S Patent 5,414,852 (Kramer et al) contains an entry list being formed from search results be ascertained from a mapping database.

U.S. Patent 5,283,830 (Hinsley et al) utilizes a similar comparison step similar to the one used in the instant invention.

U.S. Patent 6,112,263 (Futral) contains a similar mapping database and access control method as the instant invention.

U.S. Patent 5,483,649 (Kuznetsov et al) monitors the device requests/access attempts in a similar way as the instant invention.

U.S Patent 4,919,545 (Yu) contains the use of file attributes similar to how the instant invention uses them.

Applied Operating System Concepts, First Edition established the way in which a device driver communicates with peripheral devices is similar to that described in the instant invention.

Operating System Concepts established that a device driver was similar to the special device file used in the instant invention.

UNIX SYSTEM Administration Handbook established that a device driver was similar to the special device file used in the instant invention.

"A Basic UNIX Tutorial: The UNIX File system" described how special files utilized file attributes similar to the instant invention.

"Exactly What is a Driver" established that a device driver was similar to the special device file used in the instant invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristin Derwich whose telephone number is 571-272-7958. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

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